Docket No.: GR 98 P 3112 P

MAIL STOP: APPEAL BRIEF-PATENTS

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Before the Board of Patent Appeals and Interferences

Applic. No.	:	09/655,091	Confirmation No.: 8366
Inventor	:	Johann Meseth	
Filed	:	September 5, 2000	
Title	:	Containment Vessel and Method of Operating a Condenser in a Nuclear Power Plant	
TC/A.U.	:	3663	
Examiner	:	Ricardo J. Palabrica	
Customer No.	:	24131	

Hon. Commissioner for Patents
Alexandria, VA 22313-1450

AMENDED BRIEF ON APPEAL

S i r :

This is an appeal from the final rejection in the Office action dated November 7, 2008, finally rejecting claims 1 - 4, 7 - 10, 15 and 16.

Appellants submit this *Amended Brief on Appeal* in response to the Notification of Non-Compliant Appeal Brief dated June 2, 2009 in which the Summary of the Claimed Subject Matter was objected to as not mapping the independent claims to the Specification by page and line number. It is believed that no payment is due.

Real Party in Interest:

This application is assigned to Framatome ANP GmbH of Germany. The assignment was submitted for recordation on March 19, 2003.

Related Appeals and Interferences:

No related appeals or interference proceedings are currently pending which would directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

Status of Claims:

Claims 1 – 4, 7 – 10, 15 and 16 are rejected and are under appeal. Claims 5 – 6 and 11- 14 were canceled. Claims 17 – 20 are withdrawn.

Status of Amendments:

No claims were amended after the final Office action.

Summary of the Claimed Subject Matter:

The subject matter of each independent claim is described in the specification of the instant application. Examples explaining the subject matter defined in each of the independent claims, referring to the specification by page and line numbers, and to the Drawing, are given below.

According to 37 CFR § 41.37(c)(1)(v) *Summary of Claimed Subject Matter*, only the subject matter defined in each of the appealed independent claims is to be explained by page and line number of the specification.

Regarding the dependent claims, it is only means plus function clauses which need to be explained.

Claims 1 and 2 are the only independent claims and there are no means plus function clauses in the appealed claims.

In the following concise explanation, the wording of claims 1 and 2 is followed by a concise explanation in parentheses.

Independent claim 1 reads as follows:
A containment vessel (page 12, line 17 - page 13, line 2, page 14, lines 4-18, page 15, lines 14-25, page 16, lines 1-7, page 17, lines 22-23; reference numeral 1 in the figure) of a nuclear power plant, comprising:

an interior space (page 12, line 23 – page 13, line 2, page 14, lines 9-13; reference numeral 6 in the figure);

a condensing chamber (page 12, lines 20-23, page 13, lines 4-12, page 13, line 17 – page 14, line 2, page 14, line 23 – page 15, line 2, page 16, lines 7-16, page 17, lines 8-26; reference numeral 4 in the figure) disposed in said interior space (page 12, line 23 – page 13, line 2, page 14, lines 9-13; reference numeral 6 in the figure), said condensing chamber (page 12, lines 20-23, page 13, lines 4-12, page 13, line 17 – page 14, line 2, page 14, line 23 – page 15, line 2, page 16, lines 7-16, page 17, lines 8-26; reference numeral 4 in the figure) being filled to a filling level (page

13, lines 6-12; reference symbol n in the figure) with a cooling liquid (page 13, lines 4-15 and 19-22, page 14, line 23 – page 15, line 2, page 15, lines 6-9; reference symbol f in the figure);

a pressure chamber (page 12, line 23 – page 13, line 2, page 14, lines 9-13; reference numeral 6 in the figure) disposed in said interior space, said pressure chamber (page 12, line 23 – page 13, line 2, page 14, lines 9-13; reference numeral 6 in the figure) having a top region;

a condenser disposed (page 14, line 4 – page 15, line 2, page 15, lines 6-9 and 17-25, page 16, line 13 – page 17, line 6, page 17, line 22 – page 18, line 6; reference numeral 16 in the figure) in said interior space (page 12, line 23 – page 13, line 2, page 14, lines 9-13; reference numeral 6 in the figure);

a condensing pipe (page 13, line 17 – page 14, line 2, page 15, lines 6-12, page 17, lines 8-20; reference numeral 14 in the figure) leading into said condensing chamber (page 12, lines 20-23, page 13, lines 4-12, page 13, line 17 – page 14, line 2, page 14, line 23 – page 15, line 2, page 16, lines 7-16, page 17, lines 8-26; reference numeral 4 in the figure) for enabling overflow of vapor into said condensing chamber (page 12, lines 20-23, page 13, lines 4-12, page 13, line 17 – page 14, line 2, page 14, line 23 – page 15, line 2, page 16, lines 7-16, page 17, lines 8-26; reference numeral 4 in the figure) from outside said condensing chamber (page 12, lines 20-23, page 13, lines 4-12, page 13, line 17 – page 14, line 2, page 14, line 23 – page 15, line 2, page 16, lines 7-16, page 17, lines 8-26; reference numeral 4 in the figure); and

a drain pipe (page 14, line 20 – page 15, line 2, page 15, lines 6-12, page 16, lines 7-16, page 17, lines 8-13, page 18, lines 1-4; reference numeral 22 in the figure) for noncondensible gases, said drain pipe (page 14, line 20 – page 15, line 2, page 15, lines 6-12, page 16, lines 7-16, page 17, lines 8-13, page 18, lines 1-4; reference numeral 22 in the figure) disposed in said interior space (page 12, line 23 – page 13, line 2, page 14, lines 9-13; reference numeral 6 in the figure) and fluidically connecting said top region of said pressure chamber (page 12, line 23 – page 13, line 2, page 14, lines 9-13; reference numeral 6 in the figure) to said condensing chamber (reference numeral 4 in the figure), said drain pipe (page 14, line 20 – page 15, line 2, page 15, lines 6-12, page 16, lines 7-16, page 17, lines 8-13, page 18, lines 1-4; reference numeral 22 in the figure) defining a direct connection to said condensing chamber (page 12, lines 20-23, page 13, lines 4-12, page 13, line 17 – page 14, line 2, page 14, line 23 – page 15, line 2, page 16, lines 7-16, page 17, lines 8-26; reference numeral 4 in the figure), and said drain pipe (page 14, line 20 – page 15, line 2, page 15, lines 6-12, page 16, lines 7-16, page 17, lines 8-13, page 18, lines 1-4; reference numeral 22 in the figure) not connected to said condenser (page 14, line 4 – page 15, line 2, page 15, lines 6-9 and 17-25, page 16, line 13 – page 17, line 6, page 17, line 22 – page 18, line 6; reference numeral 16 in the figure), said drain pipe (page 14, line 20 – page 15, line 2, page 15, lines 6-12, page 16, lines 7-16, page 17, lines 8-13, page 18, lines 1-4; reference numeral 22 in the figure) having an upper end (page 14, lines 20-23, page 16, lines 7-12; reference numeral 24 in the figure) disposed at a level above said condenser (page 14, line 4 – page 15, line 2, page 15, lines 6-9 and 17-25, page 16, line 13 – page 17, line 6, page 17, line 22 – page 18, line 6; reference numeral 16 in the

figure) and a bottom end (page 14, lines 23-25, page 15, lines 9-12; reference numeral 26 in the figure) immersed into said cooling liquid (page 13, lines 4-15 and 19-22, page 14, line 23 – page 15, line 2, page 15, lines 6-9; reference symbol f in the figure);

said condenser (page 14, line 4 – page 15, line 2, page 15, lines 6-9 and 17-25, page 16, line 13 – page 17, line 6, page 17, line 22 – page 18, line 6; reference numeral 16 in the figure) and said upper end (page 14, lines 20-23, page 16, lines 7-12; reference numeral 24 in the figure) of said drain pipe (page 14, line 20 – page 15, line 2, page 15, lines 6-12, page 16, lines 7-16, page 17, lines 8-13, page 18, lines 1-4; reference numeral 22 in the figure) being disposed in said pressure chamber (page 12, line 23 – page 13, line 2, page 14, lines 9-13; reference numeral 6 in the figure), and said upper end (page 14, lines 20-23, page 16, lines 7-12; reference numeral 24 in the figure) of said drain pipe (page 14, line 20 – page 15, line 2, page 15, lines 6-12, page 16, lines 7-16, page 17, lines 8-13, page 18, lines 1-4; reference numeral 22 in the figure) being disposed to permit the noncondensible gases to be led off from atmosphere surrounding said condenser (page 14, line 4 – page 15, line 2, page 15, lines 6-9 and 17-25, page 16, line 13 – page 17, line 6, page 17, line 22 – page 18, line 6; reference numeral 16 in the figure) and thermally interacting with said condenser (page 14, line 4 – page 15, line 2, page 15, lines 6-9 and 17-25, page 16, line 13 – page 17, line 6, page 17, line 22 – page 18, line 6; reference numeral 16 in the figure).

Independent claim 2 reads as follows:

A containment vessel (page 12, line 17 - page 13, line 2, page 14, lines 4-18, page 15, lines 14-25, page 16, lines 1-7, page 17, lines 22-23; reference numeral 1 in the figure) of a nuclear power plant, comprising:

an interior space (page 12, line 23 – page 13, line 2, page 14, lines 9-13; reference numeral 6 in the figure);

a condensing chamber (page 12, lines 20-23, page 13, lines 4-12, page 13, line 17 – page 14, line 2, page 14, line 23 – page 15, line 2, page 16, lines 7-16, page 17, lines 8-26; reference numeral 4 in the figure) disposed in said interior space (page 12, line 23 – page 13, line 2, page 14, lines 9-13; reference numeral 6 in the figure), said condensing chamber (page 12, lines 20-23, page 13, lines 4-12, page 13, line 17 – page 14, line 2, page 14, line 23 – page 15, line 2, page 16, lines 7-16, page 17, lines 8-26; reference numeral 4 in the figure) being filled to a filling level (page 13, lines 6-12; reference symbol n in the figure) with a cooling liquid (page 13, lines 4-15 and 19-22, page 14, line 23 – page 15, line 2, page 15, lines 6-9; reference symbol f in the figure);

a pressure chamber (page 12, line 23 – page 13, line 2, page 14, lines 9-13; reference numeral 6 in the figure) disposed in said interior space (page 12, line 23 – page 13, line 2, page 14, lines 9-13; reference numeral 6 in the figure);

a condenser (page 14, line 4 – page 15, line 2, page 15, lines 6-9 and 17-25, page 16, line 13 – page 17, line 6, page 17, line 22 – page 18, line 6; reference numeral

16 in the figure) disposed in said pressure chamber (page 12, line 23 – page 13, line 2, page 14, lines 9-13; reference numeral 6 in the figure);

a region around said condenser (page 14, line 4 – page 15, line 2, page 15, lines 6-9 and 17-25, page 16, line 13 – page 17, line 6, page 17, line 22 – page 18, line 6; reference numeral 16 in the figure);

a condensing pipe (page 13, line 17 – page 14, line 2, page 15, lines 6-12, page 17, lines 8-20; reference numeral 14 in the figure) leading into said condensing chamber (page 12, lines 20-23, page 13, lines 4-12, page 13, line 17 – page 14, line 2, page 14, line 23 – page 15, line 2, page 16, lines 7-16, page 17, lines 8-26; reference numeral 4 in the figure) for enabling overflow of vapor into said condensing chamber (page 12, lines 20-23, page 13, lines 4-12, page 13, line 17 – page 14, line 2, page 14, line 23 – page 15, line 2, page 16, lines 7-16, page 17, lines 8-26; reference numeral 4 in the figure) from outside said condensing chamber (page 12, lines 20-23, page 13, lines 4-12, page 13, line 17 – page 14, line 2, page 14, line 23 – page 15, line 2, page 16, lines 7-16, page 17, lines 8-26; reference numeral 4 in the figure); and

a drain pipe (page 14, line 20 – page 15, line 2, page 15, lines 6-12, page 16, lines 7-16, page 17, lines 8-13, page 18, lines 1-4; reference numeral 22 in the figure) for noncondensible gases, said drain pipe (page 14, line 20 – page 15, line 2, page 15, lines 6-12, page 16, lines 7-16, page 17, lines 8-13, page 18, lines 1-4; reference numeral 22 in the figure) fluidically connecting said region around said condenser (page 14, line 4 – page 15, line 2, page 15, lines 6-9 and 17-25, page 16, line 13 –

page 17, line 6, page 17, line 22 – page 18, line 6; reference numeral 16 in the figure) to said condensing chamber (page 12, lines 20-23, page 13, lines 4-12, page 13, line 17 – page 14, line 2, page 14, line 23 – page 15, line 2, page 16, lines 7-16, page 17, lines 8-26; reference numeral 4 in the figure), and said drain pipe (page 14, line 20 – page 15, line 2, page 15, lines 6-12, page 16, lines 7-16, page 17, lines 8-13, page 18, lines 1-4; reference numeral 22 in the figure) having a top end (page 14, lines 20-23, page 16, lines 7-12; reference numeral 24 in the figure) disposed above said condenser (page 14, line 4 – page 15, line 2, page 15, lines 6-9 and 17-25, page 16, line 13 – page 17, line 6, page 17, line 22 – page 18, line 6; reference numeral 16 in the figure), and said drain pipe (page 14, line 20 – page 15, line 2, page 15, lines 6-12, page 16, lines 7-16, page 17, lines 8-13, page 18, lines 1-4; reference numeral 22 in the figure) defining a direct connection to said condensing chamber (page 12, lines 20-23, page 13, lines 4-12, page 13, line 17 – page 14, line 2, page 14, line 23 – page 15, line 2, page 16, lines 7-16, page 17, lines 8-26; reference numeral 4 in the figure), and said drain pipe (page 14, line 20 – page 15, line 2, page 15, lines 6-12, page 16, lines 7-16, page 17, lines 8-13, page 18, lines 1-4; reference numeral 22 in the figure) not connected to said condenser (page 14, line 4 – page 15, line 2, page 15, lines 6-9 and 17-25, page 16, line 13 – page 17, line 6, page 17, line 22 – page 18, line 6; reference numeral 16 in the figure), said drain pipe (page 14, line 20 – page 15, line 2, page 15, lines 6-12, page 16, lines 7-16, page 17, lines 8-13, page 18, lines 1-4; reference numeral 22 in the figure) having an upper end (page 14, lines 20-23, page 16, lines 7-12; reference numeral 24 in the figure) disposed at a level above said condenser (page 14, line 4 – page 15, line 2, page 15, lines 6-9 and 17-25, page 16, line 13 – page 17, line 6, page 17, line 22 – page 18, line 6; reference numeral 16 in the

figure) and a bottom end (reference numeral 26 in the figure) immersed into said cooling liquid (page 13, lines 4-15 and 19-22, page 14, line 23 – page 15, line 2, page 15, lines 6-9; reference symbol f in the figure);

said condenser (page 14, line 4 – page 15, line 2, page 15, lines 6-9 and 17-25, page 16, line 13 – page 17, line 6, page 17, line 22 – page 18, line 6; reference numeral 16 in the figure) and said upper end (page 14, lines 20-23, page 16, lines 7-12; reference numeral 24 in the figure) of said drain pipe (page 14, line 20 – page 15, line 2, page 15, lines 6-12, page 16, lines 7-16, page 17, lines 8-13, page 18, lines 1-4; reference numeral 22 in the figure) being disposed in said pressure chamber (page 12, line 23 – page 13, line 2, page 14, lines 9-13; reference numeral 6 in the figure), and said upper end (page 14, lines 20-23, page 16, lines 7-12; reference numeral 24 in the figure) of said drain pipe (page 14, line 20 – page 15, line 2, page 15, lines 6-12, page 16, lines 7-16, page 17, lines 8-13, page 18, lines 1-4; reference numeral 22 in the figure) being disposed to permit the noncondensible gases to be drawn off from atmosphere surrounding said condenser (page 14, line 4 – page 15, line 2, page 15, lines 6-9 and 17-25, page 16, line 13 – page 17, line 6, page 17, line 22 – page 18, line 6; reference numeral 16 in the figure) and thermally interacting with said condenser (page 14, line 4 – page 15, line 2, page 15, lines 6-9 and 17-25, page 16, line 13 – page 17, line 6, page 17, line 22 – page 18, line 6; reference numeral 16 in the figure).

Grounds of Rejection to be Reviewed on Appeal:

1. Whether or not claims 1 – 4, 7 – 10, 15 and 16 are obvious over Brettschuh et al. (“SWR – 1000 – der Siedewasserreaktor der Zukunft”, Siemens Power

Journal, 2/96) in view of U.S. Patent No. 3,115,450 to Schanz under 35 U.S.C. § 103(a).

Argument:

I. THE INVENTION OF THE INSTANT APPLICATION

Before discussing the prior art in detail, it is believed that a brief review of the invention as claimed, would be helpful. Claim 1 calls for, inter alia, a containment vessel of a nuclear power plant, comprising:

> an interior space;
>
> a condensing chamber disposed in said interior space, said condensing chamber being filled to a filling level with a cooling liquid;
>
> a pressure chamber disposed in said interior space, said pressure chamber having a top region;
>
> a condenser disposed in said interior space;
>
> a condensing pipe leading into said condensing chamber for enabling overflow of vapor into said condensing chamber from outside said condensing chamber; and
>
> a drain pipe for noncondensible gases, said drain pipe disposed in said interior space and fluidically connecting said top region of said pressure chamber to said condensing chamber, said drain pipe defining a direct connection to said condensing chamber, and said drain pipe not connected to said condenser, said drain pipe having an upper end disposed at a level above said condenser and a bottom end immersed into said cooling liquid;
>
> said condenser and said upper end of said drain pipe being disposed in said pressure chamber, and said upper end of said drain pipe being disposed to permit the noncondensible gases to be led off from atmosphere surrounding said condenser and thermally interacting with said condenser.

Independent claim 2 contains similar language.

Appellant would like to emphasize that an important aspect of the nuclear power plant containment vessel in accordance with the invention is the existence of two types of flow connections between the pressure chamber 6 and the condensing chamber 4, which clearly differ functionally and structurally.

On one hand, the drain pipe 22 is provided which is recited in the claims and represents the central novelty over the state of the art. With regard to its configuration and dimensioning, this drain pipe 22 is constructed in such a way that, in case of a reactor accident, noncondensible gases released in the interior space of the containment 1 (that is in the pressure chamber 6), and collecting in the immediate vicinity of a building condenser 16 can be transferred at relatively low pressures in the interior of the containment 1 immediately from there directly into the condensing chamber 4, where they are finally closed in. As a result, the surroundings of the building condenser 16 are specifically kept free from such noncondensible gases.

On the other hand, a conventional condensing pipe 14 is also recited in the claims. During the further course of an accident, large portions of released steam, above all, flow through this pipe 14 from a central area of the pressure chamber 6 into the condensing chamber 4 in order to condensate there (in this case, noncondesible portions are naturally carried along to a certain extent). These objectives and the structure used therefor are all described in detail in the instant application and are recited in the claims.

II. THE PRIOR ART CONTIANS NO DRAIN PIPE

The Examiner correctly asserts that the Brettschuh system contains all of the limitations of the claims of the instant application, except for those directed to the drain pipe. However, Appellant cannot understand the allegation that a person of skill in the art could acquire the "missing" limitation of the drain pipe from Schanz, and furthermore feel motivated to integrate the same into the system of Brettschuh.

In Fig. 7, relied upon by the Examiner in the rejection, and the appertaining description, Schanz himself only discloses a single type of overflow pipe between the pressure chamber (dry well 154) and the condensing chamber (outer chamber 162), which specifically is the vent tubes 180.

As described in column 7, lines 53-69 of Schanz, these vent tubes 180 are constructed to transfer large portions of released steam into the pool 164 in the outer chamber 162 in case of a serious reactor accident (worst credible accident), in order to condense them there in the pool 164 (in that case as well, noncondensible gases are naturally carried along to a certain extent). The construction of the Schanz system therefore corresponds precisely to the construction of the condensing pipes provided in accordance with Brettschuh and the present invention, except for the drain pipe.

In other words, with regard to their dimensioning and their technical function, the vent tubes 180 in the disclosure according to Schanz must be compared with the condensing pipe 14 of the present the invention, however not with the drain pipe 22 of the present the invention! A person of skill in the art, therefore, merely recognizes technical elements in Schanz, which are already present in Brettschuh anyway,

namely the condensing pipes. For this reason alone, a person of skill in the art has no motivation to modify the nuclear power plant containment vessel disclosed in Brettschuh in any way.

III. THE PRIOR ART DOES NOT HAVE AN UPPER END OF A DRAIN PIPE ABOVE A CONDENSER

Even if one were to erroneously compare individual vent pipes 180 with the drain pipe 22 provided in accordance with the present invention, one could not derive any indication from Schanz to spatially correlate the upper orifice region of such a pipe with the mounting position of a building condenser, as specified, for example, in the last paragraph of pending claims 1 and 2 of the instant application. In Schanz, there is no such condenser at all within the dry well 154 and Shanz does not contemplate such a condenser.

IV. THE CRITICALITY AND ADVANTAGES OF THE RELATIVE LOCATION OF THE UPPER END OF THE DRAIN PIPE AND THE CONDENSER

In the third paragraph on page 4 of the Office Action dated November 7, 2008, which the Examiner relies upon as providing details of the rejection in item 3 of the Final Office Action dated November 7, 2008, the Examiner has stated that "applicant has not identified any specific advantage of the claimed location of the upper level of the drain pipe and therefore said location is a matter of design choice." However, the Board's attention is respectfully directed to the first paragraph on page 16 of the Specification of the instant application, which states:

> In the course of an accident, noncondensible gases, in particular hydrogen, will possibly be released, and these noncondensible gases accumulate in the top region of the containment vessel 1, i.e. in the top region of the pressure chamber 6. The noncondensible gases which collect in the top region of the pressure chamber 6 lead to an increase in the pressure in the containment

> vessel 1. Due to the configuration of the drain pipe 22 and the increased pressure in the region of the top end 24, the mixture of steam and noncondensible gases there flows off through the drain pipe 22 from the top region of the pressure chamber 6 into the condensing chamber 4. The entrained steam is condensed in the condensing chamber 4. Therefore, by virtue of the drain pipe 22, an accumulation of noncondensible gases, for which the entire gas space in the condensing chamber 4 is available, is avoided in the region around the condenser 16. (Emphasis added)

It is thus seen that it is the combination of the condenser 16 and the upper end 24 of the drain pipe 22 which reduce pressure in the upper portion of the pressure chamber 6 to avoid a catastrophe. These are the specific advantages mentioned by the Examiner and they have been recited in the instant application since its filing date over 8 years ago. Even the last paragraph of claims 1 and 2 themselves state that the gases are led off from the surroundings of the condenser.

V. THE EXAMINER ACKNOWLEDGES THAT THE PRIOR ART IS MISSING THE DRAIN PIPE LIMITATION OF CLAIMS 1 AND 2

In the third paragraph on page 3 of the Final Office Action dated November 7, 2008, in item 3, the Response to Arguments, the Examiner has stated that:

> "This artisan, upon review of applied art Brettschuh, would have recognized an important missing element in said reference that has safety implications, i.e. means to remove noncondensible gases."

Thus it is seen that:

a) the Examiner acknowledges that the drain pipe 22 recited in claims 1 and 2 of the instant application is nowhere to be found in the prior art;

b) the Examiner also recognizes the advantages of the drain pipe 22 recited in claims 1 and 2 of the instant application in removing noncondensible gases; and

c) the Examiner nevertheless opines that one of ordinary skill in the art would have recognized the need for and provided the missing element, even though this advantageous critical element is nowhere to be found in the prior art.

Therefore, the Examiner would ask the Board to agree that a critical element, providing great advantages, which is nowhere in the prior art, could easily be added by one of ordinary skill in the art, even though no one in the history of nuclear power, at least as far as the prior art shows, has ever provided such an element before.

VI. THE EXAMINER ACKNOWLEDGES THAT THE PRIOR ART IS MISSING THE LIMITATION OF THE UPPER END OF THE DRAIN PIPE BEING AT A LEVEL ABOVE THE CONDENSER OF CLAIMS 1 AND 2

In the third paragraph on page 4 of the Final Office Action dated November 7, 2008, in item 3, the Response to Arguments, the Examiner has stated that:

> "As to having the upper end of this drain pipe disposed above Brettschuh et al.'s condenser, applicant has not identified any specific advantage of the claimed location of the upper level of the drain pipe and therefore said location is a matter of design choice."

However, Appellant did indeed identify the advantage of this limitation on page 13 of an Amendment filed October 3, 2008.

In reply, the Examiner merely states that Schanz shows tubes at the top of the containment, without addressing the relative location limitation of the claim.

Thus, the Examiner says nothing about the relative location of the upper end of the drain pipe and the condenser, that is the upper end of the drain pipe being above the condenser. This is apparently because Schanz has no condenser at all within the dry well or pressure chamber 154.

Accordingly, the Examiner has all but acknowledged that the limitation of claims 1 and 2 calling for "said drain pipe having an upper end disposed at a level above said

condenser" is not shown in the prior art. The Examiner has been unable to find such an element in the prior art and merely states that it is a matter of design choice.

However, the criticality of this limitation, which has been explained to the Examiner, is that the relative location of the condenser and the upper end of the drain pipe as claimed makes the condenser more effective by reducing pressure.

The Examiner would therefore ask the Board to agree that this limitation, which is nowhere to be found in the prior art, and provides critical advantages, could easily be added by one of ordinary skill in the art, even though no one in the history of nuclear power, at least as far as the prior art shows, has ever provided such a limitation before.

VII. SUMMARY

a) In summary, regarding the drain pipe of the claims, the argumentation set forth in the Office Action appears to be based on ex post facto wisdom derived from the teaching of the instant application, wherein the "missing" elements of one reference are randomly compiled from another reference in the state of the art without any recognition that none of the references provide an element functioning like the drain pipe 22 recited in claims 1 and 2 of the instant application.

b) In summary, regarding the relative location of the condenser and the upper end of the drain pipe, the Examiner, as mentioned above, has all but acknowledged that no such configuration is found in the prior art, since he attacks the limitation as being a design choice rather than applying prior art showing the limitation. However, as stated above, the relative location of the condenser and the upper end of the drain

pipe as claimed provides a critical advantage by making the condenser more effective by reducing pressure.

Clearly, neither Brettschuh nor Schanz nor a combination thereof show:

> a drain pipe for noncondensible gases fluidically connecting a top region of a pressure chamber to a condensing chamber, besides the presence of a condensing pipe leading into the condensing chamber for enabling overflow of vapor into the condensing chamber, and
>
> the drain pipe having an upper end disposed at a level above a condenser and a bottom end immersed into cooling liquid,

as recited in claims 1 and 2 of the instant application.

It is accordingly believed to be clear that none of the references, whether taken alone or in any combination, either show or suggest the features of claims 1 and 2 of the instant application under appeal.

Claims 1 and 2 of the instant application under appeal are, therefore, believed to be patentable over the art. The dependent claims are believed to be patentable as well because they all are ultimately dependent on claims 1 or 2of the instant application under appeal.

The honorable Board is therefore respectfully urged to reverse the final rejection of the Primary Examiner.

If an extension of time is required for this submission, petition for extension is herewith made. Any extension fees or other fees which might be due should be

charged to undersigned Counsel's Deposit Account No. 12-1099 of Lerner Greenberg Stemer LLP.

Respectfully submitted,

/Laurence A. Greenberg/
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Date: June 8, 2009

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Claims Appendix:

1. A containment vessel of a nuclear power plant, comprising:

an interior space;

a condensing chamber disposed in said interior space, said condensing chamber being filled to a filling level with a cooling liquid;

a pressure chamber disposed in said interior space, said pressure chamber having a top region;

a condenser disposed in said interior space;

a condensing pipe leading into said condensing chamber for enabling overflow of vapor into said condensing chamber from outside said condensing chamber; and

a drain pipe for noncondensible gases, said drain pipe disposed in said interior space and fluidically connecting said top region of said pressure chamber to said condensing chamber, said drain pipe defining a direct connection to said condensing chamber, and said drain pipe not connected to said condenser, said drain pipe having an upper end disposed at a level above said condenser and a bottom end immersed into said cooling liquid;

said condenser and said upper end of said drain pipe being disposed in said pressure chamber, and said upper end of said drain pipe being disposed to permit

the noncondensible gases to be led off from atmosphere surrounding said condenser and thermally interacting with said condenser.

2. A containment vessel of a nuclear power plant, comprising:

an interior space;

a condensing chamber disposed in said interior space, said condensing chamber being filled to a filling level with a cooling liquid;

a pressure chamber disposed in said interior space;

a condenser disposed in said pressure chamber;

a region around said condenser;

a condensing pipe leading into said condensing chamber for enabling overflow of vapor into said condensing chamber from outside said condensing chamber; and

a drain pipe for noncondensible gases, said drain pipe fluidically connecting said region around said condenser to said condensing chamber, and said drain pipe having a top end disposed above said condenser, and said drain pipe defining a direct connection to said condensing chamber, and said drain pipe not connected to said condenser, said drain pipe having an upper end disposed at a level above said condenser and a bottom end immersed into said cooling liquid;

said condenser and said upper end of said drain pipe being disposed in said pressure chamber, and said upper end of said drain pipe being disposed to permit the noncondensible gases to be drawn off from atmosphere surrounding said condenser and thermally interacting with said condenser.

3. The containment vessel according to claim 1, wherein said drain pipe forms a permanently open flow path.

4. The containment vessel according to claim 2, wherein said drain pipe forms a permanently open flow path.

7. The containment vessel according to claim 1, wherein said condensing pipe ends below said bottom end of said drain pipe.

8. The containment vessel according to claim 2, wherein said condensing pipe ends below said bottom end of said drain pipe.

9. The containment vessel according to claim 1, including an external cooling basin, said condenser fluidically communicating with said external cooling basin.

10. The containment vessel according to claim 2, including an external cooling basin, said condenser fluidically communicating with said external cooling basin.

15. The containment vessel according to claim 1, wherein said drain pipe has a bottom end, and said condensing chamber contains a cooling liquid in which said bottom end of said drain pipe is immersed.

16. The containment vessel according to claim 2, wherein said drain pipe has a bottom end, and said condensing chamber contains a cooling liquid in which said bottom end of said drain pipe is immersed.

Evidence Appendix:

No evidence pursuant to §§ 1.130, 1.131, or 1.132 or any other evidence has been entered by the Examiner and relied upon by appellant in the appeal.

Related Proceedings Appendix:

No pending appeals, interferences or judicial proceedings are in existence which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in this appeal. Accordingly, no copy of decisions rendered by a court are available.

There was a prior appeal, which was decided on March 30, 2005. However, that appeal had different claims and completely different prior art was applied against the claims. A copy of that Decision by the Board is appended hereto.